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ABSTRACT

The Washington State Legislature requires that a sample of public school eleventh grade students be tested at least once every 4 years in the basic skills of reading, language arts and mathematics. A statewide assessment of eleventh grade achievement was made in 1981 using the California Achievement Test Form C. This report describes the procedures and results of the statewide survey. The specific subtest results include the areas of: (1) reading vocabulary; (2) reading comprehension; (3) spelling; (4) language mechanics; (5) language expression; (6) mathematics computation; and (7) mathematics concepts and applications. The appendices contain the mean raw scores and scale scores for each subtest and total battery and the complete item summary report for the assessment. (ML)

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WASHINGTON STATEWIDE EDUCATIONAL ASSESSMENT

READING, LANGUAGE, MATHEMATICS

11th Grade -- Spring, 1981

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This report is made in compliance with RCW 28A.03.360

October, 1981

WASHINGTON STATEWIDE EDUCATIONAL ASSESSMENT

STATE GENERAL REPORT

ELEVENTH GRADE

INTRODUCTION

In 1976 the Washington State Legislature enacted legislation (RCW 28A.03.360) which created the Washington Statewide Educational Assessment Program. The State Assessment Program requires that a sample of public school 11th grade students be tested at least once every four years in the basic skills of reading, language arts, and mathematics. Pursuant to the legislation a sample of 11th grade students was tested in the Spring of 1977 using test items available from the National Assessment of Educational Progress. The results of the 1977 11th grade assessment were published in August, 1977.

In the spring of 1981 a carefully selected sample of 11th grade students was tested with the California Achievement Test (CAT). The sample was selected to allow the results to be generalized to the more than 59,000 11th grade students in Washington's public schools. The Legislature's stated purpose for these surveys is to allow the public and the Legislature to judge how Washington 11th graders' achievement in reading, language, and mathematics compares with 11th grade achievement nationally. The remainder of this report describes the procedures and results of the second statewide assessment of 11th grade achievement.

OVERVIEW OF ASSESSMENT PROCEDURES

It was determined that the range of items available from the National Assessment item pool was too restricted to provide adequate coverage of Washington's basic skills programs. Therefore, the decision was made to seek a more comprehensive test of achievement in the basic skills. The Superintendent issued a "Request for Proposals" to the publishers of survey tests of basic skills widely used in the State of Washington. The Superintendent's "RFP" detailed the kinds of services, score reports and interpretation materials required for the testing program. Responses to the Superintendent's RFP were received from five publishers. Based on the unanimous recommendations of an independent review panel, the California Achievement Test (CAT) Form C, was selected for use at grades 4, 8, and 11 as prescribed by RCW 28A.03.360

For the Spring, 1981 11th grade testing, a two-stage cluster sample design, for the total grade 11 population was developed and implemented. In the first stage 64 schools enrolling 11th grade students were selected. The second stage involved requesting 11th grade rosters from each school selected in the first stage. From these rosters, a sub-sample of students was selected from each school. This sample design resulted in a probability sample of students with each student in the total population having an equal probability of selection thus resulting in a self-weighting sample.

GENERAL STATE LEVEL RESULTS

The CAT provides scores in seven basic skill areas: reading vocabulary, reading comprehension, spelling, language mechanics, language expression,

mathematics computation and mathematics concepts and applications. The CAT results for the sample of Washington 11th graders are reported in two ways: the mean national percentile ranks and the percentages of students scoring in the four norm group quarters on each of the seven sub-tests, the three sub-test totals and the combined battery total.

A percentile rank describes the relative position of a student within a specified group of students. The specified group of students is called the norm group. When the norm group is based on a national sample of students, the score is called a national percentile rank. A percentile rank score indicates the percentage of students in the norm group whose scores were equal to or lower than the score reported. The mean percentile rank indicates the average score of a group of scores converted to the corresponding percentile rank in the national norm group. The average score in the national norm group always corresponds to the 50th percentile. To the extent a specific group's mean percentile rank exceeds the 50th percentile, it can be concluded that the general level of the group's performance exceeds that of the national norm group.

The mean percentile ranks for Washington were calculated by converting the raw scores (number correct on the test) of each student to a scale-score. (Scale-scores are special scores that have mathematical characteristics that allow them to be averaged without distorting the scores' meaning.) The Washington students' scale scores were then averaged on each sub-test and the resulting mean scale-score for the sub-test was converted to its equivalent national percentile rank for comparison purposes.

Because the results reported are based on a sample and not the entire population of 11th grade students, the scores are estimates of the population scores. That is, the scores are the estimates of what the scores would have been if all 11th grade students had been tested. Because the sample was carefully designed and selected, the error associated with these estimates is very small and can be calculated. In fact, one of the advantages of a carefully designed sample is that error variance can be calculated. This is not the case when an entire population is surveyed, though error is present even in surveys of entire populations. Appendix A gives the standard errors associated with each of the mean scores on each sub-test of the CAT. The error range in percentile units can also be calculated using the publisher's empirical norms tables.

In addition to the mean percentile scores, the percentages of students scoring in each of the national norm group quarters provide another baris for analyzing Washington's performance on the CAT. The national norm group's scores were divided by the publisher into four equal groups or quarters: first quarter (percentile ranks 1-25), second quarter (percentile ranks 26-50), third quarter (percentile ranks 51-75), and fourth quarter (percentile ranks 76-99). It follows tnat 25% of the students in the national norm group had scores in each quarter. If Washington's distribution of scores was like that of the national norm group, 25% of Washington's scores would be in each quarter. To the exent the percentages of Washington's scores in each quarter vary, Washington's performance differed (higher or lower) from the national norm group. The two middle quarters (percentiles 26-75) are generally considered an "average" range of achievement.

Table 1 provides the percentages of Washington 11th grade students scoring in each of the norm group quarters for each of the sub-tests on the CAT. At the bottom of each sub-test column the mean national percentile rank is included for each sub-test.

TABLE 1.* PERCENTAGES OF WASHINGTON ELEVENTH GRADE STUDENTS SCORING IN EACH QUARTER AND MEAN NATIONAL PERCENTILE RANK ON THE CAT

NORM GROUP QUARTERS	READ VOCAB	READ COMP	READ TOTAL	SPELL	LANG MECH	LANG EXPR	LANG TOTAL	MATH COMP	MATH CO/AP	MATH TOTAL	TOTAL BATT
4th 25%	27%	34%	31%	27%	26%	27%	25%	27%	27%	27%	29%
3rd 25%	41%	32%	36%	28%	37%	31%	34%	37%	36%	38%	36%
2nd 25%	21%	24%	24%	27%	26%	29%	30%	26%	27%	25%	26%
1st 25%	10%	10%	10%	19%	12%	13%	11%	10%	11%	10%	9%
Mean Nat'l %ile Rank	62	63	62	57	58	61	57	61	61	62	61

*Percentages and percentile ranks have been rounded to the nearest whole number.

The results in Table 1 indicate that compared with the national norm group, Washington's scores were consistently high across all sub-tests. Even Washington's lowest mean percentile ranks (57 in the spelling and language total sub-tests) are significantly above the mean percentile rank of 50 for the national norm group. In no case does the percentage of Washington

students in the lowest quarter exceed 19%, and in all cases the percentages of Washington students in the upper quarters equals or exceeds 25%. On the total battery score 29% of Washington's students scored in the upper quarter and only 9% scored in the lower quarter compared with the national norm group's results of 25% each in the upper and lower quarters.

SPECIFIC SUB-TEST RESULTS

The California Achievement Test surveys students in seven basic skill areas. These areas are tested by separate sub-tests within the total battery. This section of the report focuses on the performance of Washington's 11th graders on each of the CAT sub-tests.

Reading Vocabulary

Vocabulary knowledge is important for understanding concepts and verbal and written communication. Level 19 of the CAT focuses on three general areas of vocabulary skills: words with the same meaning, words with opposite meanings and multimeaning words. Words of the same or opposite meanings are tested by placing the "stimulus" word in a phrase and asking the student to select the word with the same (or opposite) meaning from a group of four words. Words with multimeanings are tested in sentences where context is important to determine the intended word meaning. There are 30 items on the reading vocabulary sub-test and Washington students answered an average of 70% correct compared to an average of 62% correct for the national norm group.

Reading Comprehension

Reading comprehension includes word recognition and word meaning skills; but these decoding and vocabulary skills are only a means to comprehension. Successful reading comprehension requires the student to attach meaning to the broader sentences and concepts which make up a reading passage. Reading comprehension on the CAT is divided into literal, interpretive, and critical comprehension. Literal comprehension concerns what is actually stated in a passage--the recognition and recall of facts. Interpretive comprehension requires students to determine (infer) what is implied in a passage. Such skills as identifying main ideas, drawing conclusions, recognizing cause and effect relationships, analyzing characters and interpreting figurative language are included in interpretive comprehension. Critical comprehension tests student's skills in evaluating and making judgments about what they read. Separating fact from opinion or recognizing when important information is missing are some of the skills tested in critical comprehension.

There is a total of 40 items on the CAT reading comprehension sub-test. On the average, Washington's 11th graders answered 72% of the items correctly compared with 64% correct in the national norm group.

Spelling

The items on the CAT spelling sub-test are organized around sounds-symbols (phonemes-graphemes) and the structural units of words (morphemes). The items emphasize the frequent errors that occur within each category. Spelling problems are tested in the consonant group and the vowel group, as well as, the structural or morphemic units of words. The test items

consist of underlined words presented in sentences. Students choose the incorrect word from three underlined words or if there are no misspellings they select the answer choice "none." Washington's students answered an average of 60% of the 20 items on the spelling test correctly compared with 56% correct in the norm group.

Language Mechanics

The language mechanics sub-test consists of 25 items testing capitalization and punctuation skills. The ten capitalization items ask students to decide which of four underlined words in a sentence requires a capital letter. Each sentence also contains an alternate choice of "none" if no word requires a capital letter. The 15 punctuation items require students to determine which one of four punctuation marks included in a sentence is required. Again the choice "none" is provided if no additional punctuation is needed.

Washington students answered 70% of the language mechanics items correctly compared with 64% correct in the norm group.

Language Expression

The language expression sub-test of the CAT focuses on the ability to apply language skills in written work. Students do no write in the test, but students must recognize the appropriate use of such writing concepts as subject-verb agreement, modifying and transitional words or phrases, and complete, incomplete or run-on sentences. Students' knowledge of parts of speech such as pronouns, nouns, adjectives and adverbs used in the context of sentences is also tested.

A third language expression area requires students to arrange related sentences in a logical or appropriate sequence based on the meaning of the group of sentences.

Of the 38 items on the language expression sub-test, Washington students answered 71% correct compared to 66% correct in the norm group.

Mathematics Computation

The CAT contains a sampling of computation skills commonly taught in the public schools. Items include problems requiring the addition, subtraction, multiplication, and division of whole numbers, fractions, mixed numbers, decimals, and algebraic expressions. Common errors in computation are incorporated into the alternative answer choices, thus adding a diagnostic dimension to the computation sub-test.

There are 40 items on the mathematics computation sub-test. Washington's 11th graders averaged 70% of the items correct compared with the norm group's 62% average correct.

Mathematics Concepts and Applications

The concepts and applications sub-test of the CAT tests a broad range of mathematics skills with emphasis on concepts and their application rather than on isolated facts. The objectives measured in this sub-test include numeration, number theory, number sentences, and number properties. Generally, these items test the student's knowledge of the symbols and words that represent numbers, the organization of these symbols, and the rules that govern these symbols. Other items in the CAT mathematics

concepts and applications sub-test focus on geometry, measurement, graphs and functions. All items have four possible answer choices with a fifth choice, "none of the above" to discourage uninformed guessing. The Washington 11th graders answered correctly an average of 67% of the 45 concepts and applications items compared with 60% correct for the norm group.

Appendix B of this report contains the complete Item Summary Report for the 1981 11th grade CAT administration.

LIMITATIONS OF THE REPORT

The results reported have several important limitations:

1. The California Achievement Test measures a limited number of skills in reading, spelling, language, and mathematics. There are other important skills in these areas not tested by the CAT. There are also many other important subject areas not tested such as science, music, history, foreign languages, or art as well as citizenship, study habits, or attitudes toward school.

2. Many factors influence students' success in school. These test results can offer some information about the degree of success, but they provide little information about causes.

3. Because of the nature of the sampling process, the results reported in this document are applicable only to the total group of public school 11th graders in Washington in May, 1981. No generalizations can or should be made to specific schools or school districts. Districts who routinely use the CAT with their 11th grade students could, of course, compare their students' performance with the state performance described in this report.

4. Finally, test results, thoughtfully used, can provide valuable information about students' strengths and weaknesses and the effectiveness of instructional programs. However, test results should always be used in context with other factors such as local program priorities, school climate and allocation of instructional time and resources.

Appendix A

Below are the mean raw scores and scale scores together with their standard errors for each sub-test, sub-test total and total battery, on the May, 1981, Washington State 11th grade test.

Also provided are the mean national percentile scores which were derived by converting the mean scale scores to their corresponding percentile ranks taken from the publisher's empirical norms table.

Washington Statewide Assessment Program
California Achievement Test
Grade 11 - Level 19C
Spring 1981

	READ VOCAB	READ COMP	READ TOTAL	SPELL	LANG MECH	LANG EXPR	LANG TOTAL	MATH COMP	MATH CO/AP	MATH TOTAL	TOTAL BAT
Mean Raw Score	21	29	50	12	17	27	44	28	30	58	165
Standard Error	0.244	0.258	0.479	0.125	0.163	0.226	0.379	0.319	0.330	0.620	1.469
Mean Scale Score	652	650	652	637	632	637	638	642	642	643	646
Standard Error	3.234	2.821	2.932	2.797	2.848	3.161	3.155	3.039	2.980	3.035	3.137
Mean Nat'l Percentile Rank	62	63	64	58	58	59	58	62	60	62	62

Appendix B

Washington Statewide Assessment Program

California Achievement Test

11th Grade - Level 19C

Spring, 1981

STATE ITEM SUMMARY REPORT

The following pages contain the complete Item Summary Report for the 1981 11th grade assessment. The percentage of students answering each item correctly is presented by sub-test. The items are grouped by concept or skill area and by the CAT objective they measure. A complete description of the objectives, concepts, and skills measured by the CAT is provided in the scope and sequence section of the Test Coordinator's Manual.

Three columns of percentages are reported. The first column reports the percentage of students in Washington answering each item correctly. The second column reports the percentages for the National reference (norm) group. The third column reports the difference in percentage points between Washington and the norm group. When the difference favors Washington, no symbol precedes the percent in column three. When the difference favors the norm group, a minus sign precedes the percentage.

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State Right Response Summary

The State Right Response Summary provides an analysis of the performance of the sample of Washington eleventh graders on individual and groups of items in the California Achievement Test. The analysis is first divided by subtests (Test 1 -- Reading Vocabulary, Test 2 -- Reading Comprehension, etc.). The second division is by content domain (literal comprehension, interpretive comprehension, etc.). The third dimension is based on category objectives such as recall of facts, inferred meaning, etc.

For each of the items, the following information is provided about the students' performance:

1. The percentages (PCT) of students omitting, giving wrong, or giving right responses;

2. The percentage of students in the national norm group (national reference group) answering the item correctly. These figures -- displayed in the three right-hand columns -- are item difficulty values for each applicable grade at the time the CAT was "normed." The center column (11.7) corresponds to the time of year Washington students were tested and is therefore the percentage to be compared with Washington's "right percentage;" and

3. The difference between Washington's and the norm group's percents correct for each item and objective (far right-hand column).

State Right Response Summary
California Achievement Test
May, 1981 - Form C, Level 19

		LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
		OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
READING VOCABULARY TEST SECTION STUDENT COUNT = 1182	**	2	28	70	60	62	63	8
OBJECTIVE 32 - SAME MEANING	**	1	30	69	58	60	61	9
01 INCREDIBLE, UNBELIEVABLE		0	3	97	92	92	93	5
02 LABORIOUS, STRENUOUS		0	17	82	67	70	71	12
03 ERRATIC, IRREGULAR		1	18	81	67	67	68	14
04 RATIONAL, REASONABLE		0	11	89	72	74	75	15
05 ASPHYXIATION, SUFFOCATION		2	28	70	57	60	61	10
06 AFFRONT, INSULT		2	68	30	27	30	30	0
07 ULTIMATUM, FINAL DEMAND		1	23	75	62	66	66	9
08 NULLIFY, VOID		0	38	62	58	62	63	0
09 ACCENTUATE, EMPHASIZE		0	28	71	56	58	59	13
10 ENVIABLE, DESIRABLE		1	36	63	53	56	57	7
11 VALID, SOUND		0	23	76	61	66	67	10
12 AMIABLE, AGREEABLE		1	52	46	42	44	44	2
13 SCATHING, HARSH		1	28	70	56	58	59	12
14 SERENE, PEACEFUL		1	27	72	63	65	66	7
15 NONCHALANTLY, CASUALLY		0	19	81	64	68	68	13
16 DEPICT, DESCRIBE		1	30	69	63	66	66	3
17 INTERVENES, INTERFERES		1	17	82	66	70	71	12
18 MALLEABLE, PLIABLE		1	48	51	38	42	43	9
19 GIBES, TAUNTS		2	58	40	35	39	39	1
20 UNFOUNDED, GROUNDLESS		1	34	65	52	56	57	9
OBJECTIVE 33 - OPPOSITE MEANING	**	3	33	65	54	55	55	10
21 MANDATORY, OPTIONAL		1	13	85	65	66	66	19
22 IGNOBLE, HONORABLE		3	27	70	62	63	64	7
23 DETRIMENTAL, BENEFICIAL		2	27	71	56	57	58	14
24 MALIGN, PRAISE		4	51	45	41	42	42	3
25 REFUTE, AFFIRM		3	44	53	44	46	47	7
OBJECTIVE 34 - MULTIMEANING	**	4	13	83	75	76	76	7
26 SITE, SIGHT, CITE		4	18	78	69	69	69	9
27 DELIBERATE		4	13	84	75	75	75	9
28 COMPLEX		4	5	90	83	83	83	7
29 FLARE, FLAIR		4	4	92	88	88	88	4
30 FRAY		5	25	70	60	63	64	7

* - THIS VALUE REPRESENTS A LINEAR INTERPOLATION BETWEEN THE TWO OUTER VALUES. ** - AVERAGES OF INCLUDED ITEMS

		LOCAL			NATIONAL REFERENCE GROUP — GRADE —			DIFFERENCE LOC - NAT
	OMITS	WRONG	RIGHT		11.2	11.7*	11.8	11.7 -11.7
	PCT	PCT	PCT		RIGHT PCT	RIGHT PCT	RIGHT PCT	RIGHT PCT
READING COMPREHENSION TEST SECTION STUDENT COUNT = 1183	**	1	27	72	62	64	64	8
LITERAL COMPREHENSION	**	1	32	67	56	58	58	9
OBJECTIVE 36 - RECALL OF FACTS	**	1	32	67	56	58	58	9
31 PERSON		0	17	83	75	75	76	8
35 EVENT		0	24	76	65	67	67	9
47 EVENT		1	31	69	56	59	60	10
52 EVENT		1	50	50	41	43	43	7
61 PLACE		2	17	81	68	68	68	13
65 PLACE		3	43	54	43	45	46	9
53 SEQUENCE		2	42	56	46	49	49	7
INTERPRETIVE COMPREHENSION	**	1	29	70	60	62	62	8
OBJECTIVE 38 - INFERRED MEANING	**	1	32	67	57	59	59	8
51 MAIN IDEA		0	14	85	69	70	70	15
63 MAIN IDEA		3	44	54	41	43	43	11
37 CONCLUSION		0	15	85	77	78	78	7
38 CONCLUSION		0	23	77	69	70	70	7
49 CONCLUSION		1	16	83	73	74	74	9
62 CONCLUSION		2	34	64	53	56	56	9
48 CAUSE/EFFECT		0	67	33	28	30	30	3
50 CAUSE/EFFECT		1	46	53	47	49	49	4
66 CAUSE/EFFECT		3	26	71	58	60	60	11
OBJECTIVE 39 - CHARACTER ANALYSIS	**	2	37	61	53	55	55	6
32 FEELING		1	60	40	31	35	35	5
33 FEELING		0	38	62	58	59	59	3
67 MOTIVE		4	21	75	59	60	61	15
36 TRAIT		0	21	79	74	75	76	4
34 COMPARE CHARACTERS		1	41	58	53	54	54	4
64 COMPARE CHARACTERS		3	42	54	42	45	45	9
OBJECTIVE 40 - FIGURATIVE LANGUAGE	**	1	18	81	70	73	73	8
54 SIMILE		0	10	90	78	81	82	9
56 SIMILE		1	30	69	58	62	63	7
57 METAPHOR		1	16	83	71	76	77	7
60 METAPHOR		1	19	80	70	71	71	9
55 HYPERBOLE		1	5	94	85	85	84	9
59 ONOMATOPOEIA		1	31	68	58	60	60	8
58 PERSONIFICATION		1	15	84	72	75	75	9

* - THIS VALUE REPRESENTS A LINEAR INTERPOLATION BETWEEN THE TWO OUTER VALUES. ** - AVERAGES OF INCLUDED ITEMS

		LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
		OMITS	WRONG	RIGHT	11.2 RIGHT	11.7* RIGHT	11.8 RIGHT	11.7 -11.7 RIGHT
		PCT	PCT	PCT	PCT	PCT	PCT	PCT
CRITICAL COMPREHENSION	**	1	20	79	69	71	71	8
OBJECTIVE 42 - AUTHOR ATTITUDE/POSITION	**	0	22	78	68	69	70	9
40 FACT/OPINION		0	4	95	91	90	90	5
42 FACT/OPINION		0	40	60	44	48	49	12
43 FACT/OPINION		0	23	77	62	64	65	13
39 VIEWPOINT		0	6	94	88	89	89	5
41 VIEWPOINT		0	36	64	55	56	56	8
OBJECTIVE 43 - TECHNIQUES OF PERSUASION	**	2	18	80	70	72	72	8
46 POSITIVE WORDS		0	38	62	52	56	57	6
44 TESTIMONIAL		0	18	82	72	73	73	9
70 TESTIMONIAL		4	27	68	57	61	61	7
45 APPEAL TO JOIN		0	12	88	76	77	77	11
68 INADEQUATE INFORMATION		4	6	90	82	83	83	7
69 PURPOSE		4	5	91	80	81	82	10

* - THIS VALUE REPRESENTS A LINEAR INTERPOLATION BETWEEN THE TWO OUTER VALUES.

** - AVERAGES OF INCLUDED ITEMS

		LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
		OMITS	WRONG	RIGHT	11.2 RIGHT	11.7* RIGHT	11.8 RIGHT	11.7 -11.7 RIGHT
		PCT	PCT	PCT	PCT	PCT	PCT	PCT
SPELLING TEST SECTION STUDENT COUNT = 1182	**	1	39	60	56	56	56	4
OBJECTIVE 44 - CONSONANT PHONEMES/GRAPHEMES	**	0	38	62	57	57	57	5
09 C/S/ (ADVERCE, ADVERSE)		0	39	61	60	60	59	1
15 SLNT SGL LTR (AJOURNED, ADJOURNED)		1	51	48	44	44	44	4
12 SLNT DBL LTR (AC(C)OMMODATIONS)		0	38	62	52	52	53	10
16 SLNT DBL LTR (POS(S)IBILITY)		1	35	64	58	60	61	4
04 CK/K/ (BARRAKS, BARRACKS)		0	27	73	72	68	67	5
OBJECTIVE 45 - VOWEL PHONEMES/GRAPHEMES	**	1	41	58	55	54	54	4
02 CUMBIN IE (GREIVANCE, GRIEVANCE)		0	30	70	63	61	61	9
17 V-C-FINAL E (ADVOCAT, ADVOCATE)		1	18	81	74	72	72	9
05 SCHWA (CONSTA/CONSTELLATIONS)		0	55	45	44	42	41	3
07 SCHWA (ACEDEMIC, ACADEMIC)		0	43	57	58	58	58	- 1
20 R-CONTRL UR (PROJECTER, PROJECTOR)		2	60	38	37	37	38	1
OBJECTIVE 46 - MORPHEMIC UNITS	**	1	40	59	55	55	55	4
10 FINAL E -ING (PROBEING, PROBING)		1	20	79	72	72	72	7
08 DBL FNL LTR (CONFERED, CONFERRED)		0	39	61	55	56	56	5
14 -ENCE (OCCURENCL, OCCURRENCE)		1	52	47	40	41	41	6
18 -ABLE (ADMIREABLE, ADMIRABLE)		1	43	56	56	54	54	2
06 EXTRA (EXTR/EXTRAORDINARY)		0	36	64	60	61	61	3
19 DIS (DISATISFIED, DISSATISFIED)		2	58	41	42	43	43	- 2
01 -IBLE (INAUDABLE, INAUDIBLE)		0	50	49	47	44	43	5
13 -TION (DISTRIBUSION, DISTRIBUTION)		0	21	78	70	69	69	9
CORRECT WORDS - NOT AN OBJECTIVE	**	0	36	63	58	61	62	2
03 CLASSIFYING, LOGICAL, SEQUENCE		0	28	72	67	68	69	4
11 BEIGE, SWEATER, GUARANTEED		0	45	55	48	54	55	1

* - THIS VALUE REPRESENTS A LINEAR INTERPOLATION BETWEEN THE TWO OUTER VALUES. ** - AVERAGES OF INCLUDED ITEMS

		LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
		OMITS	WRONG	RIGHT	11.2 RIGHT	11.7* RIGHT	11.8 RIGHT	11.7 -11.7 RIGHT
		PCT	PCT	PCT	PCT	PCT	PCT	PCT
LANGUAGE MECHANICS TEST SECTION STUDENT COUNT = 1181	**	0	30	70	63	64	65	6
CAPITALIZATION	**	0	34	66	60	62	62	4
OBJECTIVE 48 - I/PROPER NOUNS/ADJECTIVES	**	0	26	74	68	70	70	4
01 GEOGRAPHICAL NAME, AREA		0	20	80	70	72	72	8
09 GEOGRAPHICAL NAME, MOUNTAIN		0	9	91	81	80	80	11
05 PERSONAL NAME		0	35	65	54	58	59	7
03 PROPER ADJECTIVE, GEOG		0	25	75	73	73	73	2
08 PROPER ADJECTIVE, GEOG		0	40	60	64	65	66	- 5
OBJECTIVE 50 - BEGINNING WORDS/TITLES	**	0	45	55	50	52	52	3
02 BEGIN WORD, QUOTATION		0	54	46	44	46	46	0
10 BEGIN WORD, QUOTATION		0	43	57	52	53	53	4
06 BEGIN WORD, SALUTATION		0	44	56	52	53	53	3
07 TITLE, BOOK		0	39	61	52	54	54	7
PUNCTUATION	**	0	28	72	65	66	66	6
OBJECTIVE 52 - END MARKS/COLON/SEMICOLON	**	0	42	57	51	53	53	4
13 QUESTION MARK		0	24	75	70	72	73	3
18 EXCLAMATION POINT		0	27	73	61	62	62	11
12 COLON, HOUR/MINUTE		0	18	82	73	76	77	6
25 COLON, LIST		1	59	40	32	35	36	5
22 SEMICOLON		0	84	16	17	18	18	- 2
OBJECTIVE 53 - COMMA	**	0	29	70	62	62	62	8
14 INTRODUCTORY WORD		0	11	89	80	82	82	7
16 CLAUSE SEPARATOR		0	31	69	66	64	64	5
19 DIRECT ADDRESS		0	29	71	59	61	61	10
23 QUOTATION		1	36	63	57	57	57	6
24 INTERRUPTER		1	40	59	47	48	48	11
OBJECTIVE 54 - QUOTATION MARKS	**	0	12	88	80	81	81	7
11 UNDIVIDED		0	4	96	88	90	90	6
17 DIVIDED		0	20	80	71	73	73	7
20 DIVIDED		0	15	85	77	78	78	7
21 TITLE/SHORT WORK		0	10	90	83	84	84	6
CORRECT SENTENCES - NOT AN OBJECTIVE	**	0	16	84	78	79	80	5

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	LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC – NAT
	OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
04 NO CAPS NEEDED	0	17	82	77	78	78	4
15 NO PUNC NEEDED	0	15	85	78	80	81	5

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	LOCAL OMITS PCT	LOCAL WRONG PCT	LOCAL RIGHT PCT	NATIONAL REFERENCE GROUP —GRADE— 11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	DIFFERENCE LOC - NAT 11.7 -11.7 RIGHT PCT
LANGUAGE EXPRESSION TEST SECTION STUDENT COUNT = 1177	** 0	29	71	65	66	67	5
USAGE	** 0	33	67	63	64	65	3
OBJECTIVE 57 - PRONOUNS	** 0	48	52	52	53	54	- 1
26 PERSONAL, POSSESSIVE (HIS, THEIR)	0	48	52	48	50	51	2
28 PERSONAL, OBJECTIVE (IT, THEM)	0	59	40	34	36	37	4
30 PERSNL, OBJECT (SHE, HER, HERSELF)	0	53	47	54	54	55	- 7
29 PERS, NOMINATIVE (HE,HIM, HIMSELF)	0	46	51	51	53	54	- 2
27 RELATIVE (WHO, WHOM)	0	30	70	72	72	72	- 2
OBJECTIVE 58 - VERBS	** 0	17	82	74	76	76	6
31 AGREEMENT	0	39	61	52	54	54	7
32 AGREEMENT	0	14	86	76	78	79	8
33 TENSE, PAST PERFECT	0	14	86	79	80	80	6
34 TENSE, FUTURE PERFECT	0	14	86	77	80	80	6
35 VOICE, PASSIVE	0	7	93	87	87	87	6
SENTENCE STRUCTURE	** 0	28	72	66	68	68	4
OBJECTIVE 60 - SUBJECTS/VERBS	** 0	55	45	42	43	43	2
42 SUBJECT	0	40	60	58	59	59	1
43 SUBJECT	0	54	46	39	41	41	5
44 SUBJECT	0	45	55	43	45	46	10
45 VERB	0	62	38	39	39	40	- 1
46 VERB	0	64	36	32	33	33	3
47 VERB	0	66	34	40	40	40	- 6
OBJECTIVE 62 - MODIFYING/TRANSITIONAL WORDS	** 0	16	84	75	77	77	7
36 MODIFIER, ADVERB	0	8	92	86	86	86	6
37 MODIFIER, ADVERB	0	10	89	85	84	84	5
38 MODIFIER, ADJECTIVE	0	10	90	80	81	82	9
39 TRANSITIONAL, ADVERB	0	11	89	81	83	84	6
40 TRANSITIONAL, ADVERB	0	32	68	57	60	61	8
41 TRANSITIONAL, CONNECTIVE	0	25	75	62	66	67	9
OBJECTIVE 64 - VERBOSITY/REPETITION	** 0	25	75	66	71	72	4
49 VERBOSITY	0	23	77	66	72	73	5
57 VERBOSITY	0	12	87	80	82	83	5
51 REPETITION	0	17	83	77	80	80	3
53 REPETITION	0	35	65	56	62	63	3

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		OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
55 REPETITION		0	36	64	56	60	61	4
OBJECTIVE 65 - MISPLACED MODIFIERS/NONPARALLEL	**	0	13	87	82	83	83	4
50 MISPLACED MODIFIER		0	23	76	73	71	70	5
52 MISPLACED MODIFIER		0	8	92	87	88	88	4
56 MISPLACED MODIFIER		0	5	95	89	89	90	6
48 NONPARALLEL STRUCTURE		0	14	86	83	85	85	1
54 NONPARALLEL STRUCTURE		0	13	87	78	80	80	7
PARAGRAPH ORGANIZATION	**	1	24	75	66	66	66	9
OBJECTIVE 68 - SEQUENCE/TOPIC.CONCLUDING SENTENCE	**	1	24	75	66	66	66	9
58 SENTENCE SEQUENCE		0	10	90	82	83	83	7
59 SENTENCE SEQUENCE		1	14	85	79	80	81	5
60 TOPIC SENTENCE DEVELOPMENT		1	56	43	37	38	38	5
61 TOPIC SENTENCE DEVELOPMENT		2	20	78	67	64	64	14
62 CONCLUDING SENTENCE		2	16	82	73	72	72	10
63 CONCLUDING SENTENCE		2	30	68	57	58	58	10

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	LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
	OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
MATHEMATICS COMPUTATION TEST SECTION STUDENT COUNT = 1171	** 2	28	70	62	62	62	8
OBJECTIVE 69 - ADDITION	** 0	22	77	70	70	70	7
03 UNLIKE FRACTIONS	0	22	78	68	68	68	10
24 MIXED NUMBERS	1	43	56	50	50	50	6
21 DECIMAL FRACTIONS, HORIZ	0	18	82	78	75	75	7
05 DECIMAL NUMBERS, HORIZ	0	12	88	81	79	79	9
01 WHOLE NO + DEC NO, HORIZ, NO REGR	0	5	95	91	90	90	5
04 WHOLE NO + DEC NO + DEC FR, HORIZ	0	8	92	86	84	84	8
23 MIXED NUMBER + DECIMAL NUMBER	1	22	77	62	63	63	14
02 MONEY, NO REGR	0	15	85	83	83	83	2
22 2 POS INTEGERS + NEG INTEGER	0	23	76	65	65	65	11
25 FRACTIONAL ALGEBRAIC EXPRESSIONS	1	56	43	39	40	40	3
OBJECTIVE 70 - SUBTRACTION	** 1	28	71	64	63	63	8
08 UNLIKE FRACTIONS	1	30	70	59	60	60	10
29 MIXED NUMBERS	3	52	44	45	43	42	1
09 DECIMAL FRACTIONS, HORIZ	0	13	87	79	78	78	9
10 WHOLE NO - DECIMAL NO, HORIZ	0	16	84	80	79	79	5
26 DECIMAL NO - DECIMAL FR, HORIZ	1	23	76	63	63	63	13
06 DEC NO - WHOLE NO, HORIZ, NO REGR	0	5	95	89	88	88	7
27 MIXED NUMBER - DECIMAL NUMBER	2	29	68	60	58	58	10
07 MONEY, HORIZ	0	17	83	77	76	76	7
28 POS INTEGER - NEG INTEGER	2	39	59	48	50	51	9
30 FRACTIONAL ALGEBRAIC EXPRESSIONS	4	53	43	38	38	38	5
OBJECTIVE 71 - MULTIPLICATION	** 2	27	71	62	63	64	8
13 FRACTION X WHOLE NUMBER	0	21	79	69	69	69	10
31 UNLIKE FRACTIONS	3	23	74	62	63	63	11
14 WHOLE NUMBER X DECIMAL FRACTION	0	17	83	69	69	69	14
32 DECIMAL FRACTIONS	4	29	67	57	59	59	8
12 DECIMAL NUMBERS, HORIZ	0	12	88	82	82	82	6
11 DECIMAL NO X DECIMAL FR	0	12	88	80	81	81	7
34 MIXED NUMBER X DECIMAL NUMBER	6	44	49	43	45	45	4
15 2 NEGATIVE INTEGERS	0	29	71	63	64	65	7
33 FRACTIONAL ALGEBRAIC EXPRESSIONS	5	40	55	47	51	52	4
35 ALGEBRAIC EXPRESSIONS	5	39	56	46	51	52	5
OBJECTIVE 72 - DIVISION	** 4	34	62	51	52	52	10
19 FRACTION / WHOLE NUMBER	1	49	51	43	43	43	8
40 MIXED NUMBER / FRACTION	9	45	46	41	41	41	5
39 MIXED NUMBERS	8	38	54	45	45	45	9

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	LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
	OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
17 DECIMAL FRACTIONS	0	21	79	62	61	61	18
16 DECIMAL NUMBERS	0	22	78	63	62	62	16
36 WHOLE NUMBER / DECIMAL FRACTION	6	27	67	51	51	51	16
20 DECIMAL FRACTION / WHOLE NUMBER	0	41	59	45	47	47	12
18 DECIMAL NU / DECIMAL FR	1	26	74	58	58	57	16
37 2 NEGATIVE INTEGERS	7	29	64	56	59	59	5
38 ALGEBRAIC EXPRESSIONS	8	39	53	47	50	50	3

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		LOCAL			NATIONAL REFERENCE GROUP —GRADE—			DIFFERENCE LOC - NAT
		OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
MATHEMATICS CONCEPTS AND APPLICATIONS TEST SECTION STUDENT COUNT = 1167	**	1	32	67	59	60	60	7
OBJECTIVE 73 - NUMERATION	**	1	26	73	63	64	65	9
42 GREATEST VALUE, DEC NOS		0	11	89	81	82	83	7
61 GREATEST VALUE, HUNDREDTH'S PLACE		3	59	39	32	31	31	8
46 EXPONENTS, EQUIVALENT NOTATION		0	9	91	84	84	84	7
51 ROUND TO NEAREST TENTH		0	11	89	72	73	74	16
55 SQUARE ROOT		1	20	79	66	70	71	9
62 SCIENTIFIC NOTATION		1	28	71	59	61	61	10
73 EXPANDED NOTATION, FOUR-DIG		2	47	50	45	47	48	3
OBJECTIVE 74 - NUMBER THEORY	**	2	32	66	60	61	62	5
47 COMPOSITE NO, SET INTERSECTION		1	17	82	75	76	77	6
48 DECIMAL TO FRACTION		0	16	84	70	71	71	13
50 LEAST COMMON DENOMINATOR		0	19	81	76	76	77	5
80 FACTORS, ALG EXPRESSION		3	63	33	34	35	35	- 2
84 ALG EXPRESSION FROM FACTORS		5	63	33	29	34	35	- 1
60 SEQUENCE, POS/NEG FRACTIONS		0	16	84	75	76	76	8
OBJECTIVE 79 - NUMBER SENTENCES/PROPERTIES	**	1	35	64	58	59	59	5
57 SOLVE INEQUALITY, NUMBER LINE		1	47	52	47	48	48	4
69 SOLVE FOR UNKNOWN		2	41	57	48	49	50	8
77 SOLVE FOR UNKNOWN		2	36	63	57	57	57	6
68 BOX AS PLACEHOLDER, INTEGERS		1	37	62	53	54	55	8
43 ASSOCIATIVE PROPERTY, MULT		0	11	89	85	85	85	4
71 DISTRIBUTIVE PROPERTY, MULT		2	43	54	51	52	52	2
56 IDENTITY ELEM, MULT OF FRACTIONS		0	29	71	66	67	68	4
OBJECTIVE 81 - GEOMETRY	**	2	34	64	57	59	59	5
58 BASES OF SOLID FIGURE		0	21	79	69	71	72	8
54 INTERSECTION OF PLANES		1	26	73	67	68	68	5
59 PERPENDICULAR RAYS		0	32	67	63	64	64	3
85 MEASURE ANGLE IN PARALLELOGRAM		6	62	32	30	31	31	1
72 SIMILAR RECTANGLES		1	30	69	57	59	60	10
OBJECTIVE 82 - MEASUREMENT	**	2	33	66	56	56	56	10
52 LENGTH, ADD/CONVERT CENTIMETERS		1	14	85	76	75	75	10
66 MASS, CONVERT KG TO GRAMS		1	39	60	49	51	51	9
75 CAPACITY, CONVERT/DIVIDE LITER		2	40	57	44	46	46	11
65 OPERATIONS, DIVIDE KILOMETERS		1	34	65	55	54	54	11
74 AREA, FORMULA FOR TRIANGLE		2	32	66	61	62	62	4

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		OMITS PCT	WRONG PCT	RIGHT PCT	11.2 RIGHT PCT	11.7* RIGHT PCT	11.8 RIGHT PCT	11.7 -11.7 RIGHT PCT
76 AREA, PARALLELOGRAM		3	37	60	50	50	50	10
OBJECTIVE 87 - FUNCTIONS AND GRAPHS	**	1	24	75	67	68	69	7
64 FUNCTION WITH 3 VARIABLES		1	37	61	56	55	55	6
67 FUNCTION WITH 3 VARIABLES		1	25	73	65	65	65	8
41 ORDERED PAIRS		0	5	95	85	87	88	8
44 ORDERED PAIRS		0	6	94	85	87	87	7
53 BAR GRAPH		0	17	83	72	75	76	8
83 CIRCLE GRAPH		4	52	44	37	40	41	4
OBJECTIVE 88 - STORY PROBLEMS	**	2	36	63	53	54	55	9
79 FRACTIONS, DIVIDE BY MIXED NO		3	54	43	36	38	39	5
61 SET UP AND SOLVE PROPORTION		1	36	63	55	56	56	7
70 RATE OF DISCOUNT		1	46	51	41	42	42	9
78 COMMISSION		3	35	62	48	49	49	13
82 DISCOUNT PRICE		4	47	49	35	38	39	11
49 LOGICAL DEDUCTION		0	14	86	78	79	79	7
63 LOGICAL DEDUCTION		0	39	61	57	59	60	2
45 PROBABILITY OF SIMPLE EVENT		1	12	88	71	74	74	14

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